Mastering Complex Geographies on data.census.gov

Dial-in: 1-888-946-4712

Passcode: 3538714

Tyson Weister
Center for Enterprise Dissemination
Dissemination Outreach Branch
U.S. Census Bureau

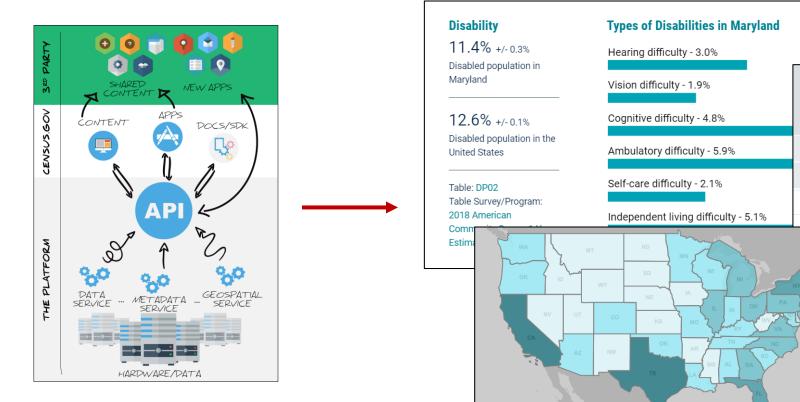


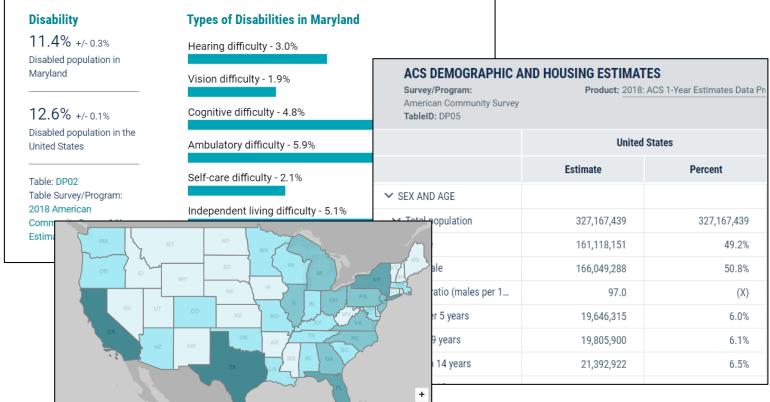
Outline

- Geographies on data.census.gov
- Tips and Demo Complex Geographies:
 - Geographies within Other Geographies
 - Geographies with Frequent Name Changes
 - Geographic Components
 - Collections of Geographies and Thematic Mapping
- Common Questions
- Q&A



data.census.gov: Changing the Way You Get Data

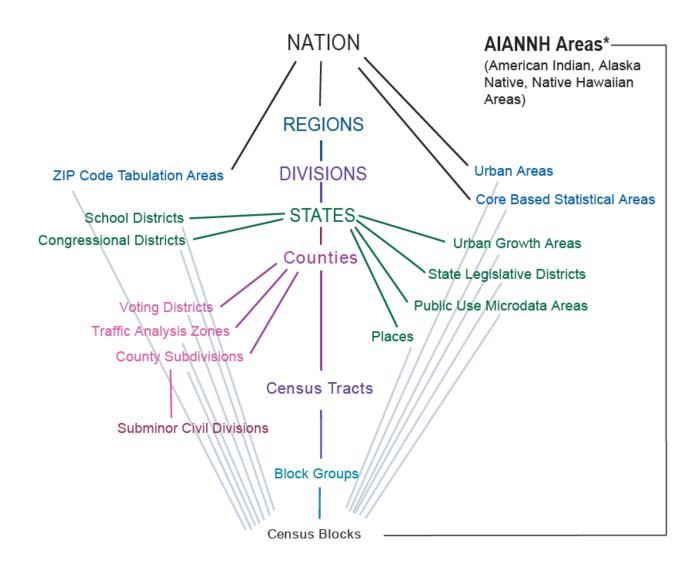






data.census.gov

Geography Hierarchy





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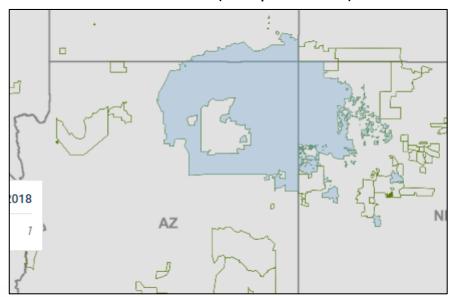


"Within" Geographies

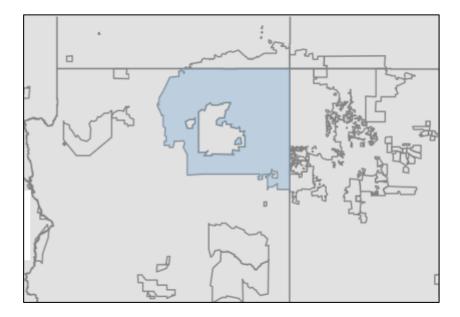
You can access Census Bureau data for parts of geographic areas (in addition to the full geographic area), primarily through the American Community Survey and Decennial Census.

Example: American Indian Area within state

Navajo Nation Reservation and Off-Reservation Trust Land (complete area)



Navajo Nation Reservation and Off-Reservation Trust Land (Arizona part)

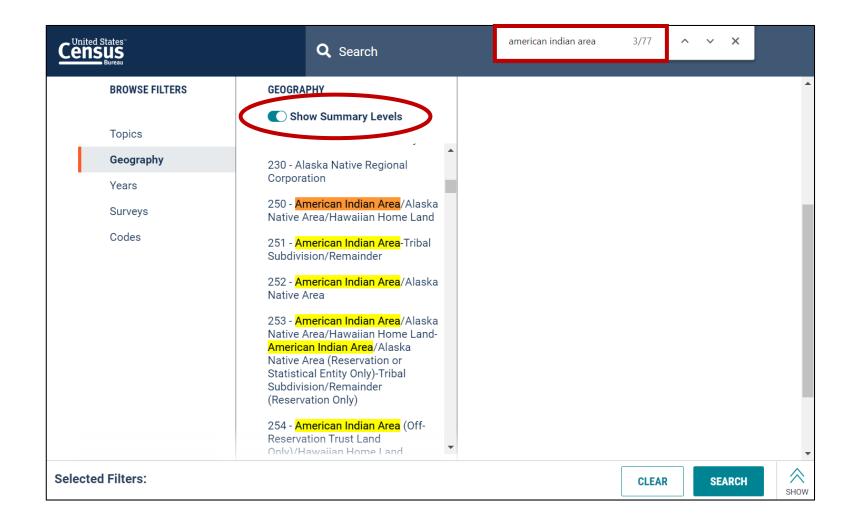




Turn On Summary Level Toggle to Find "within" Geographies

To find portions of geographies "within" other geographies (example: American Indian Area within state):

- Turn on the Show Summary Levels toggle
- Scroll through the list to find your geographic area
- Press Control + F to search the webpage

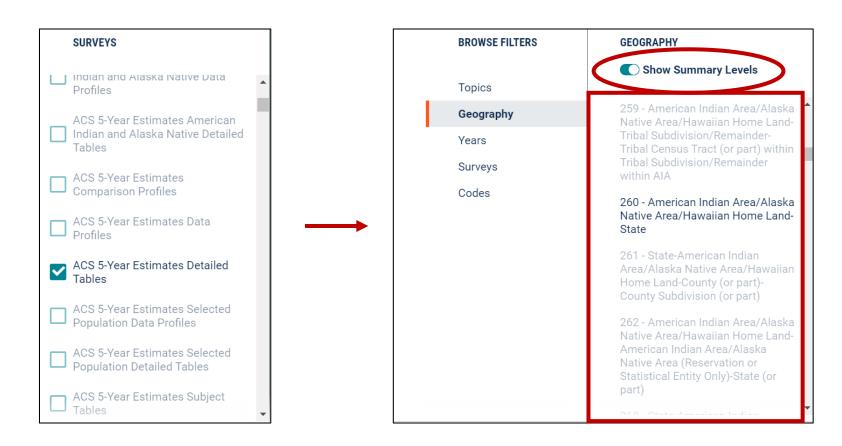




Select Your Dataset First to Narrow the List of Summary Levels

To find geographies compatible with your survey or program:

- Select your survey first
- Click geographies and turn on the Show Summary Levels Toggle
- Geographies that are compatible are clickable. All other geography levels are grayed out.





data.census.gov Demo

1. Geographies within Other Geographies

Example: American Community Survey poverty totals for Navajo Nation within state (AZ, NM, UT)

2. Geographies with Frequent Label Changes

Example: Race for State Legislative District (Upper Chamber) 24 in Arizona

3. Geographic Components

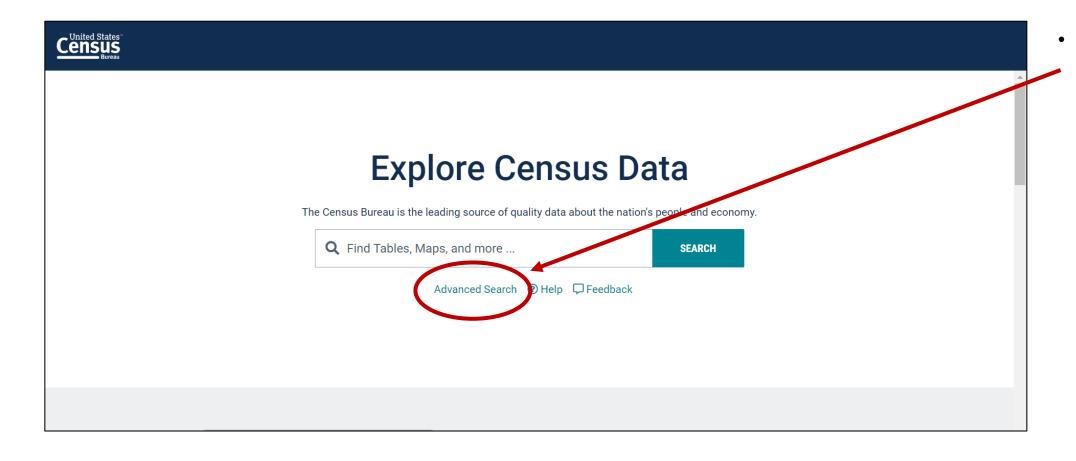
- a) Advanced Search Example: Total population in Urban and Rural Alabama
- b) Using URL to Select Geography Example: Total population in Urban and Rural Georgia

4. Collections of Geographies and Thematic Mapping

Example: Median age for all block groups in Vermont



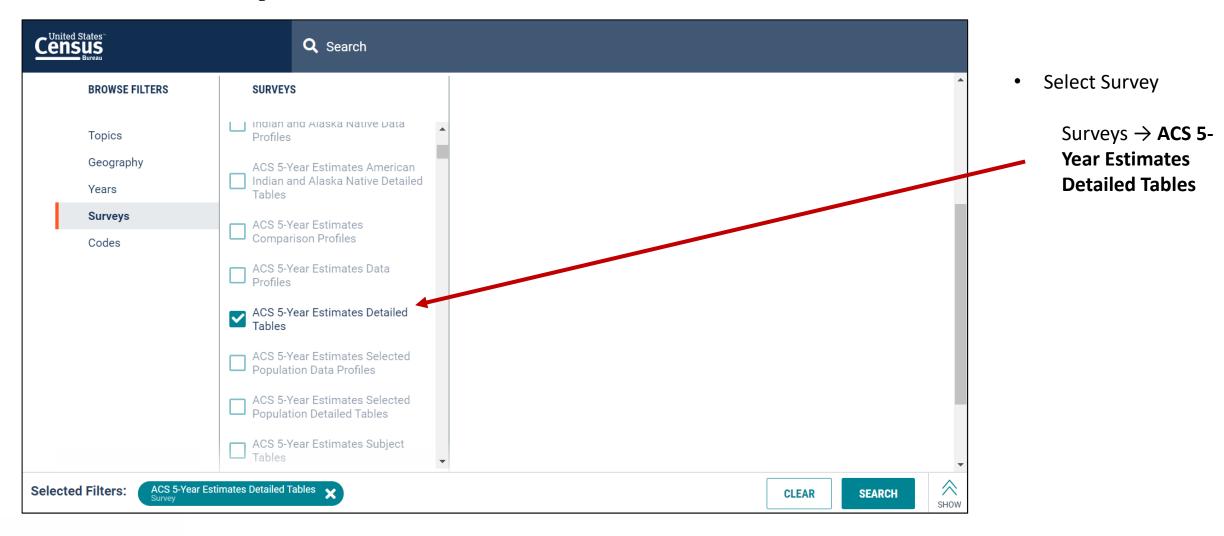
Select Advanced Search



Click **Advanced Search**

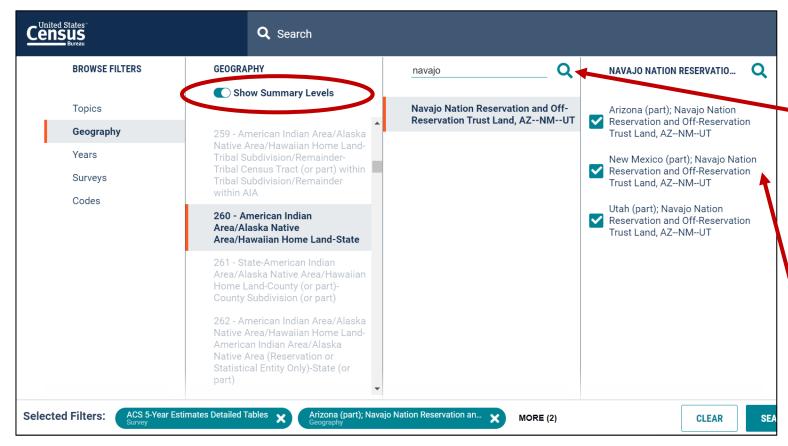


Select Survey: ACS 5-Year Estimates Detailed Tables





Select Geography: Navajo Nation within state (AZ, NM, UT part)



Select Geography

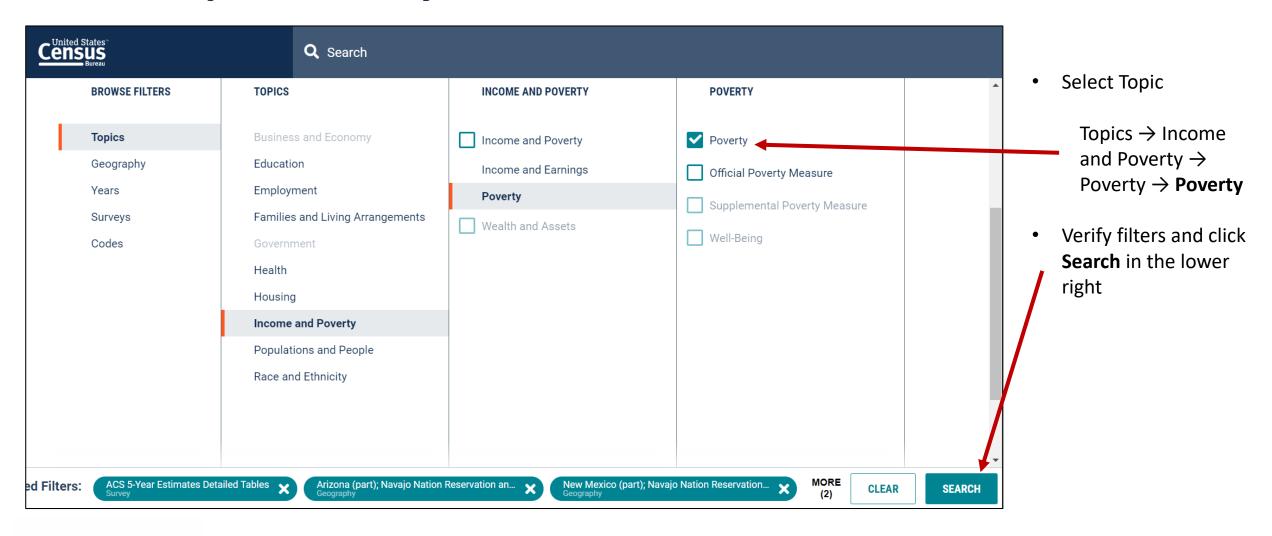
Geography → Turn on the Show Summary
Levels toggle → 260 – American Indian
Area/Alaska Native Area/Hawaiian Home
Land-State → Navajo Nation Reservation and
Off-Reservation Trust Land, AZ--NM--UT
Tip: Click the magnifying glass in the upper
right to search the contents of the panel
without scrolling

Click your areas:

- Arizona (part); Navajo Nation
 Reservation and Off-Reservation Trust
 Land
- New Mexico (part); Navajo Nation
 Reservation and Off-Reservation Trust
 Land
- Utah (part); Navajo Nation Reservation and Off-Reservation Trust Land



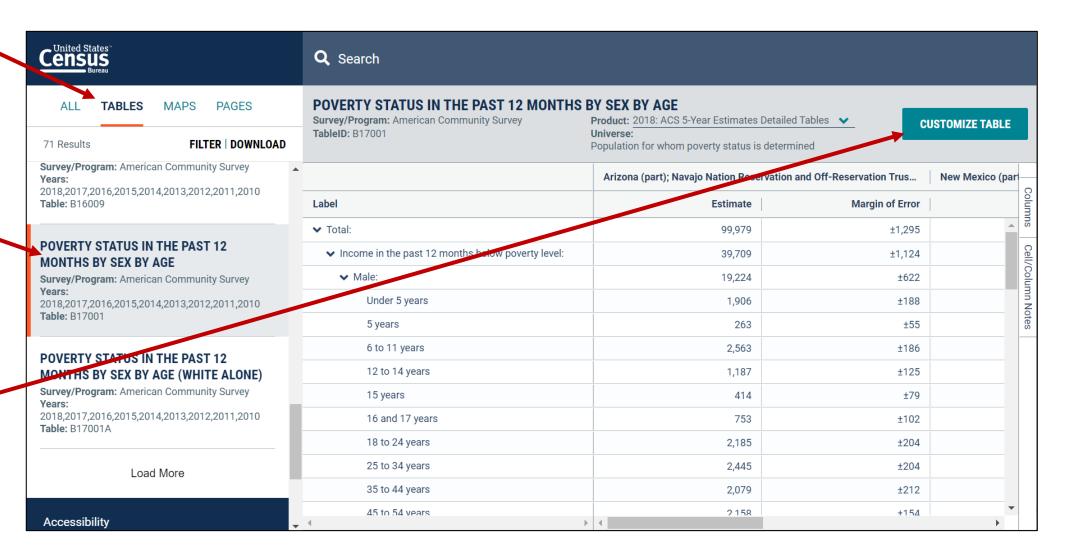
Select Topic: Poverty





View Table Results

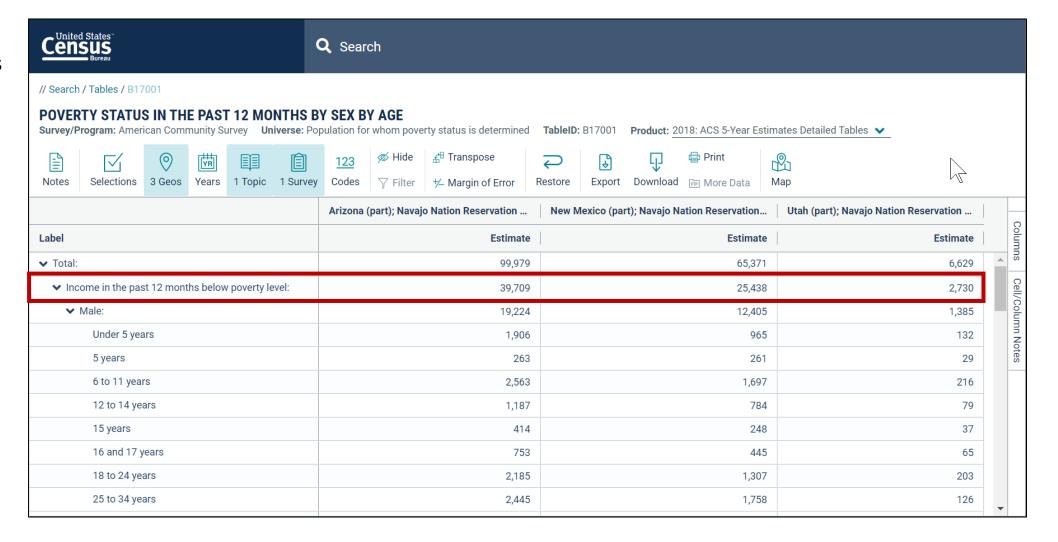
- Click **Tables** in the upper left
- Click a table title on the left to browse the available data: B17001
 Poverty
 Status by Sex by Age
- Click
 Customize
 Table in the upper right





View Your Results

 View your result across geographies





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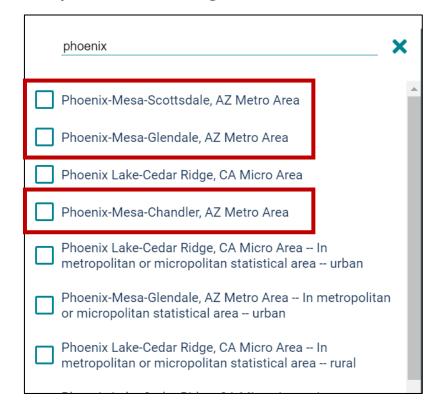


Geographies with Repeating Labels & Frequent Name Changes

Geographies with vintage-based names



Geographies with frequent name changes



Examples:

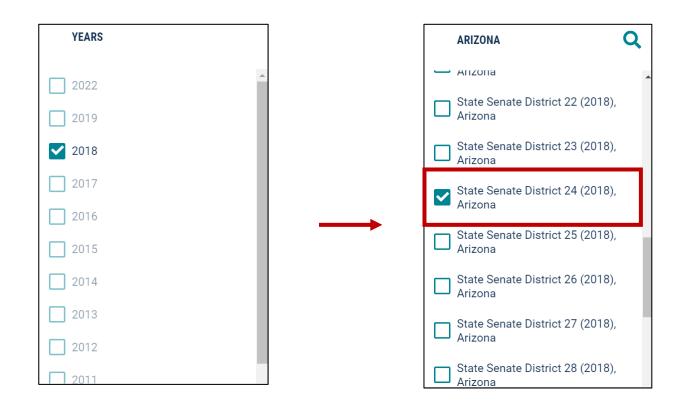
- Congressional Districts
- State Legislative Districts
- Metropolitan/Micropolitan Statistical Areas
- Combined Statistical Areas
- Metropolitan Divisions
- Public Use Microdata Areas (PUMAs)



Select Your Year First to Narrow List of Geographies

To shorten the list of similar or repeating geography names:

- Select your year first
- Use the geography filters to select your area(s)
- Only the geographies that are compatible with your year selection will appear in the list.





data.census.gov Demo

1. Geographies within Other Geographies

Example: American Community Survey poverty totals for Navajo Nation within state (AZ, NM, UT)

2. Geographies with Frequent Name Changes

Example: Race for State Senate District 24 in Arizona

3. Geographic Components

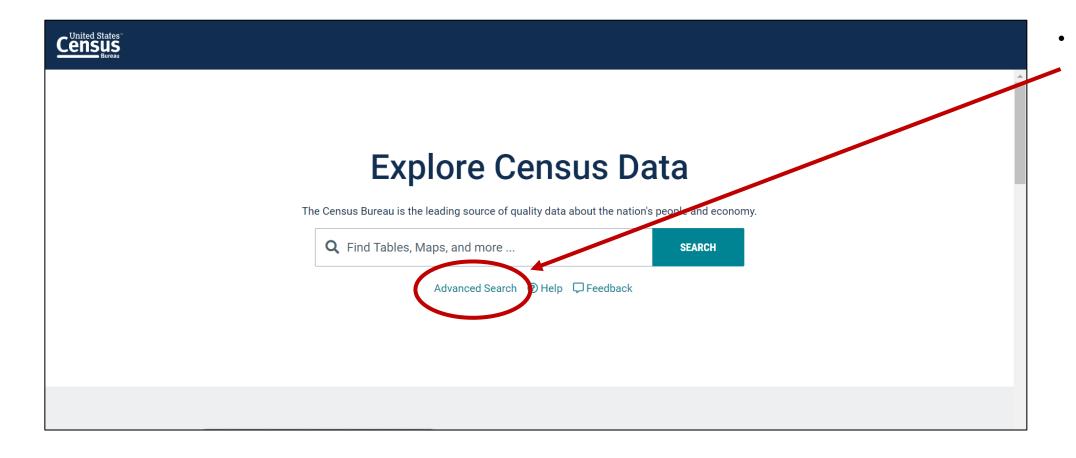
- a) Advanced Search Example: Total population in Urban and Rural Alabama
- b) Using URL to Select Geography Example: Total population in Urban and Rural Georgia

4. Collections of Geographies and Thematic Mapping

Example: Median age for all block groups in Vermont



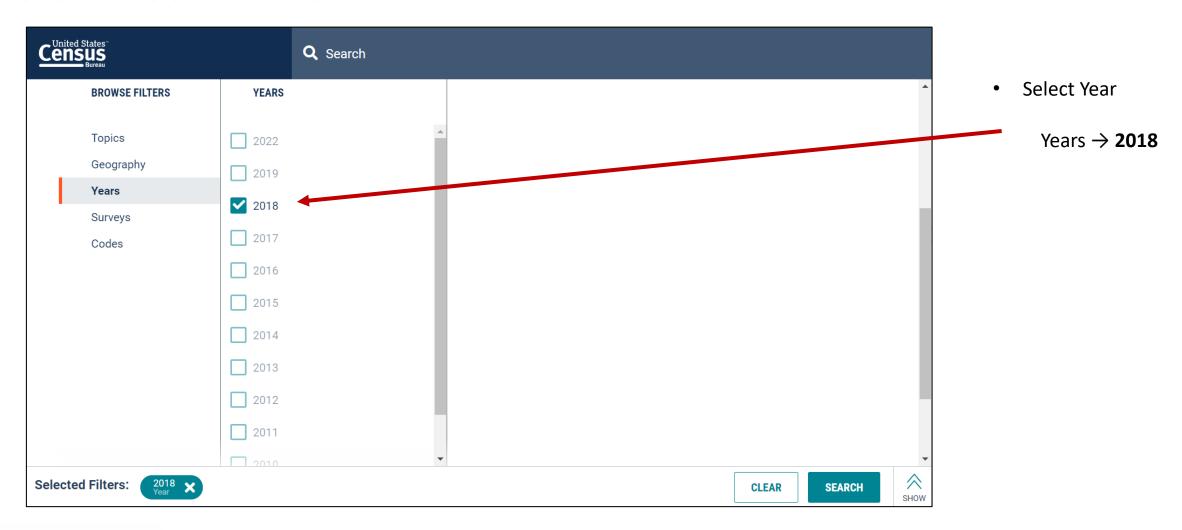
Select Advanced Search



Click **Advanced Search**

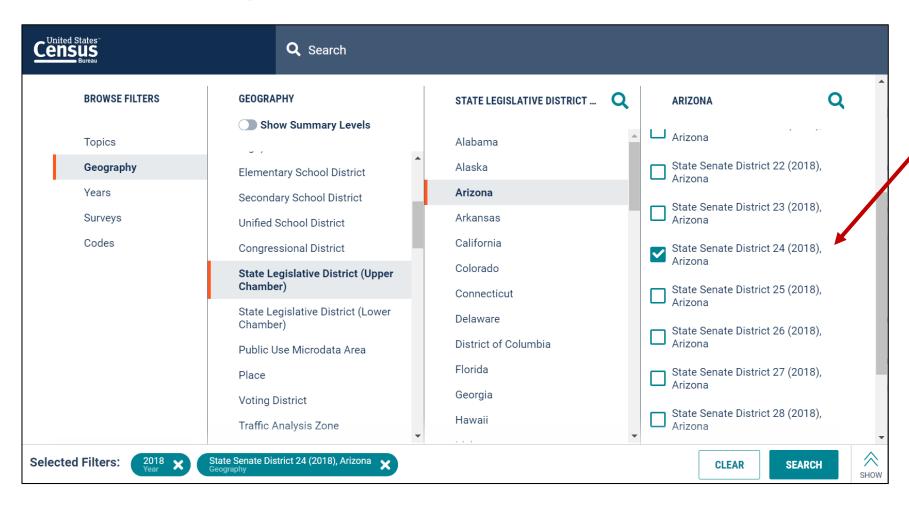


Select Year: 2018





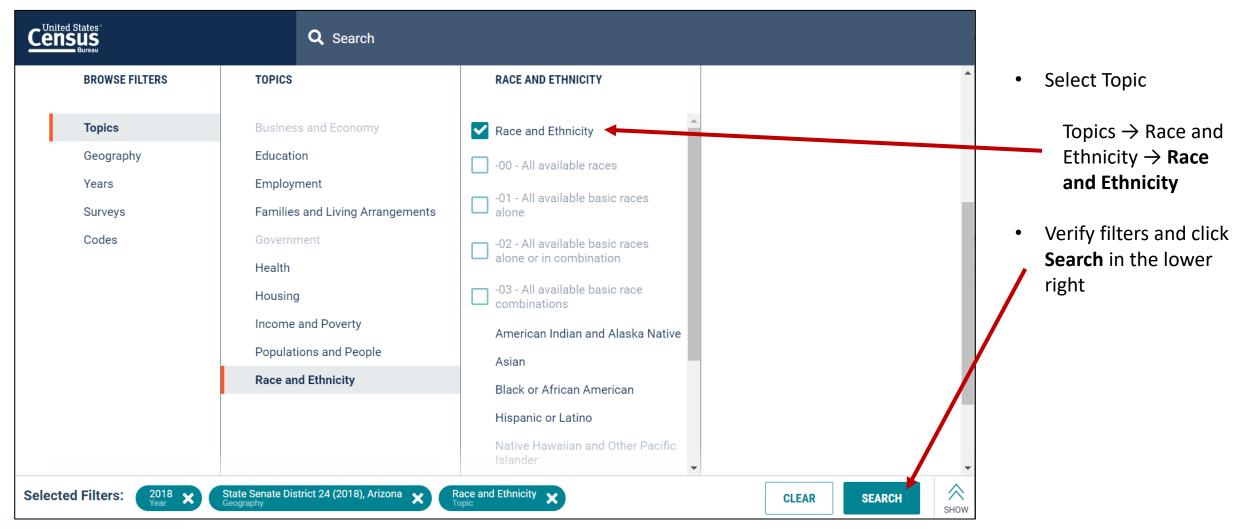
Select Geography: State Senate District 24, Arizona



Select Geography
 Geography → State Legislative
 District (Upper Chamber) →
 Arizona → State Senate District
 24 (2018), Arizona



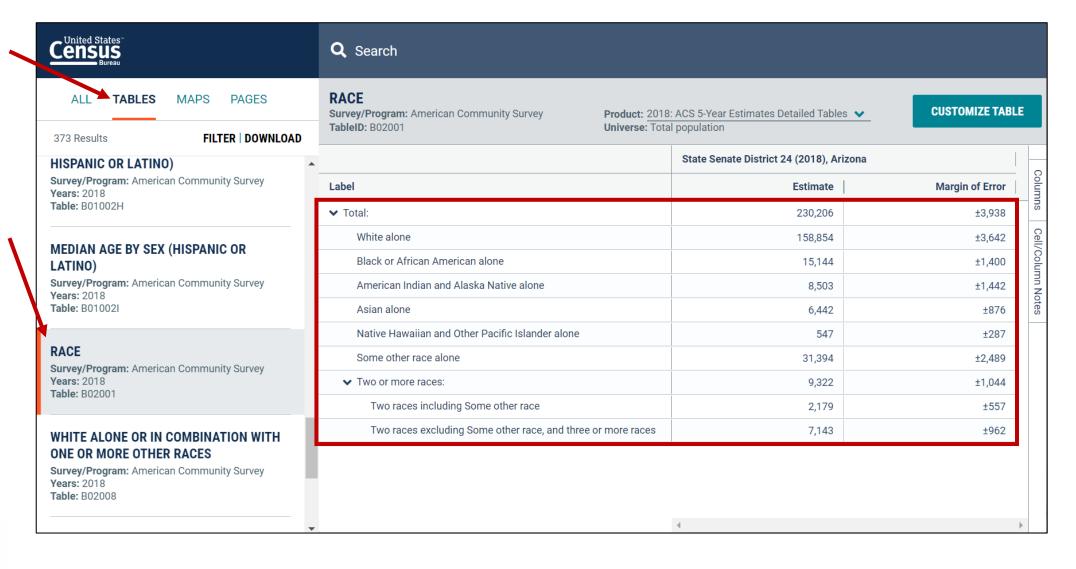
Select Topic: Race and Ethnicity





Browse Tables and View Results

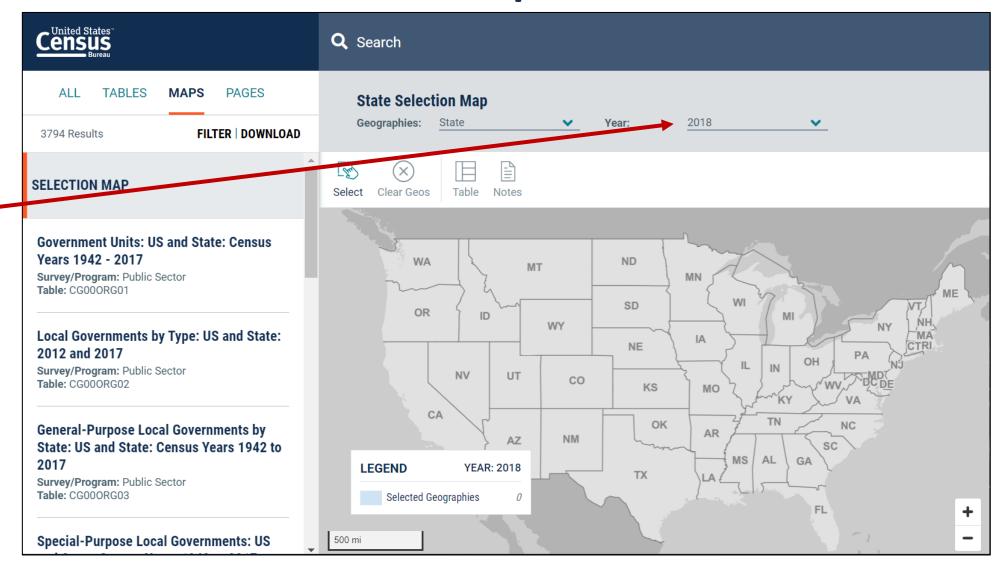
- Click **Tables** in the upper left
- Click a table title on the left to browse the available data: B02001 Race
- View your results





Alternative Method -- Selection Map

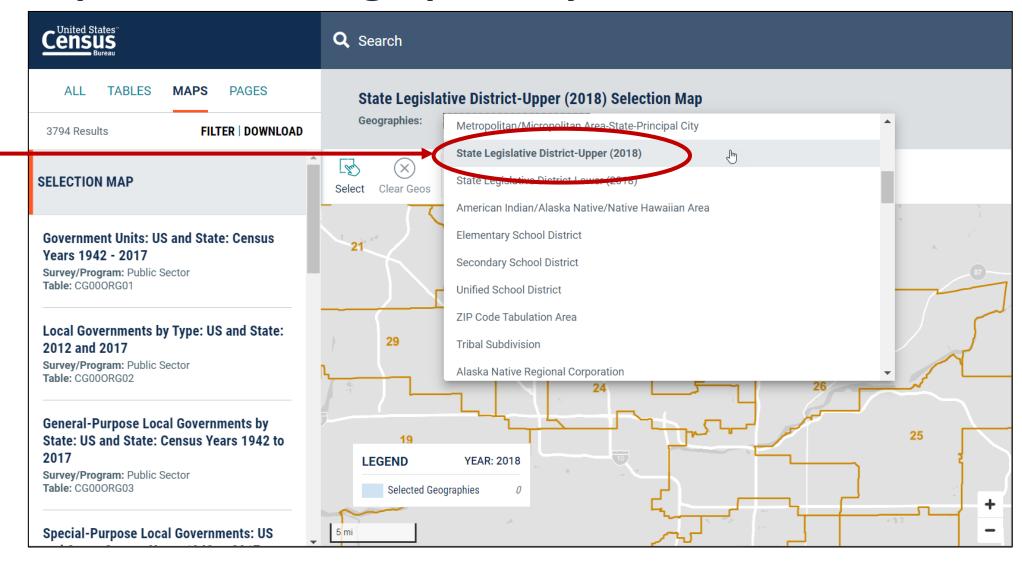
- Visit
 <u>data.census.g</u>
 <u>ov/cedsci/ma</u>
 <u>p?mode=sele</u>
 ction
- Select Year:2018





Selection Map: Choose Geographic Layer

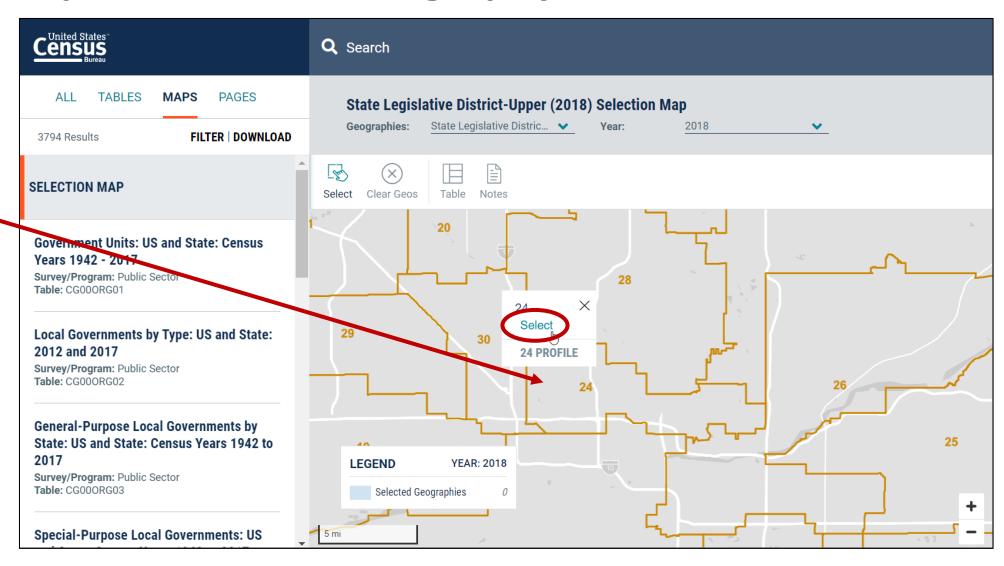
Click the
 Geographies
 drop down
 menu and
 choose your
 geographic
 type





Selection Map: Select Your Geography

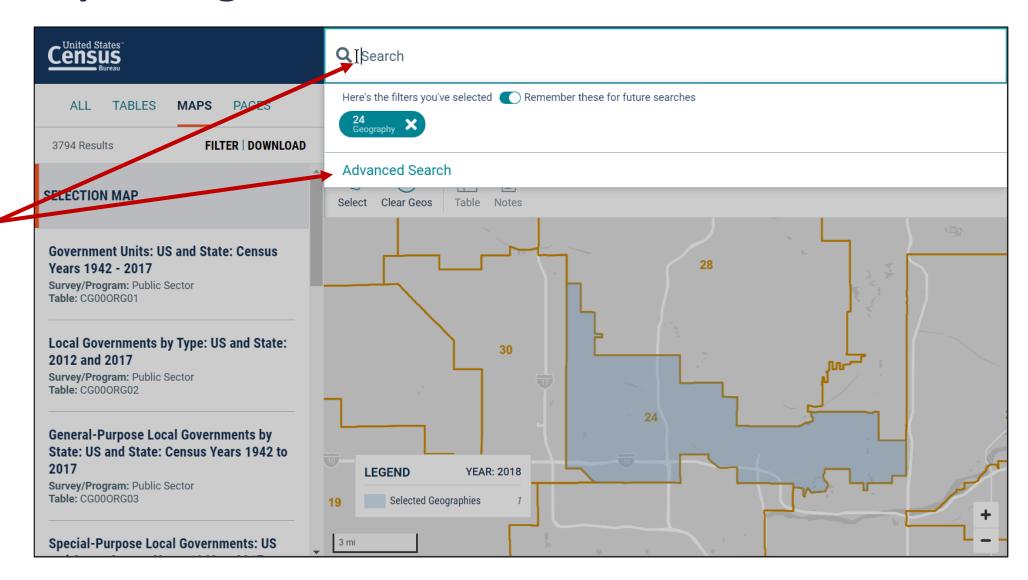
- Manually zoom and/or scroll to your desired area
- Click your desired geography on the map and click Select





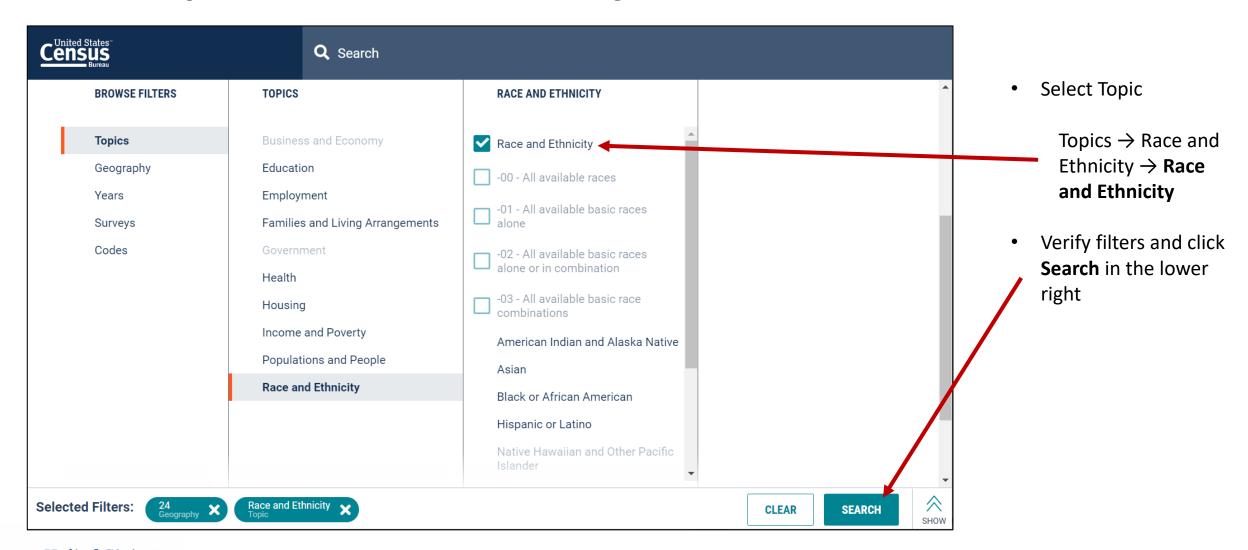
Selection Map: Navigate to Advanced Search

- Verify your selected geography
- Click in the search bar and select
 Advanced
 Search





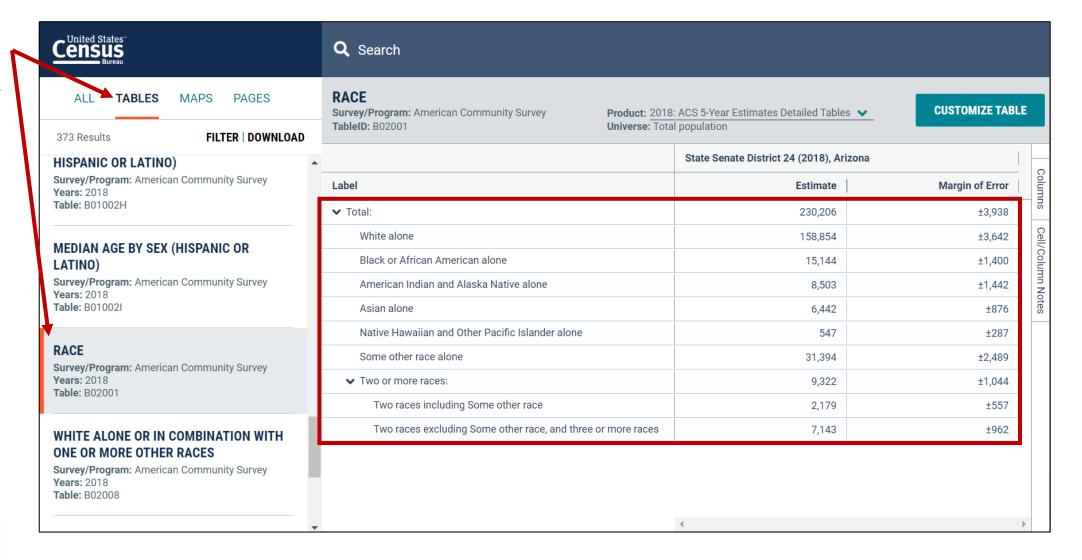
Select Topic: Race and Ethnicity





Browse Tables and View Results

 Click Tables in the upper left and view your results





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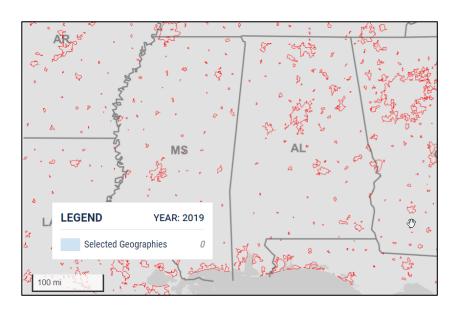


Geographic Components

You can access Census Bureau data for components of a geography.

Example: The urban portion of a state

Urban areas and urban clusters in Alabama



Popular Geographic Components:

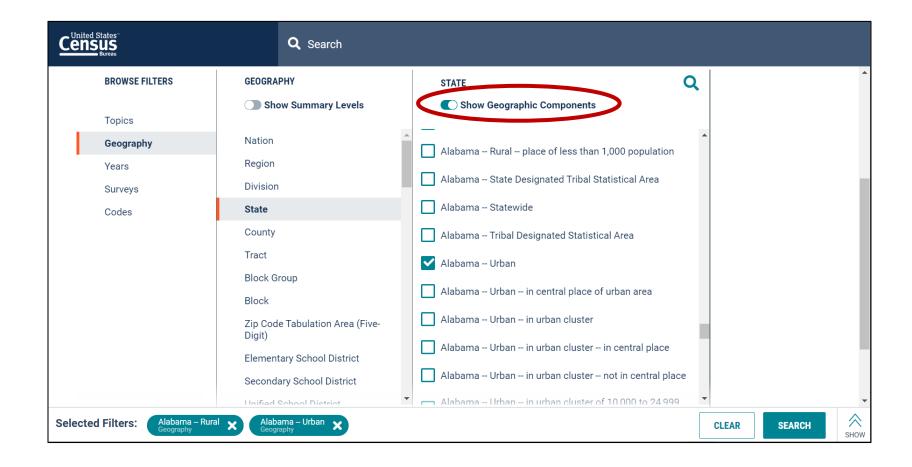
- Urban
- Rural
- In metropolitan/micropolitan statistical area
- Not in metropolitan/micropolitan statistical area
- American Indian Area, Alaska Native Area, Hawaiian Home Land



Turn On Show Geographic Components Toggle

To find geography components:

- Select your primary geography
- Turn on the Show Geographic components toggle





data.census.gov Demo

1. Geographies within Other Geographies

Example: American Community Survey poverty totals for Navajo Nation within state (AZ, NM, UT)

2. Geographies with Frequent Name Changes

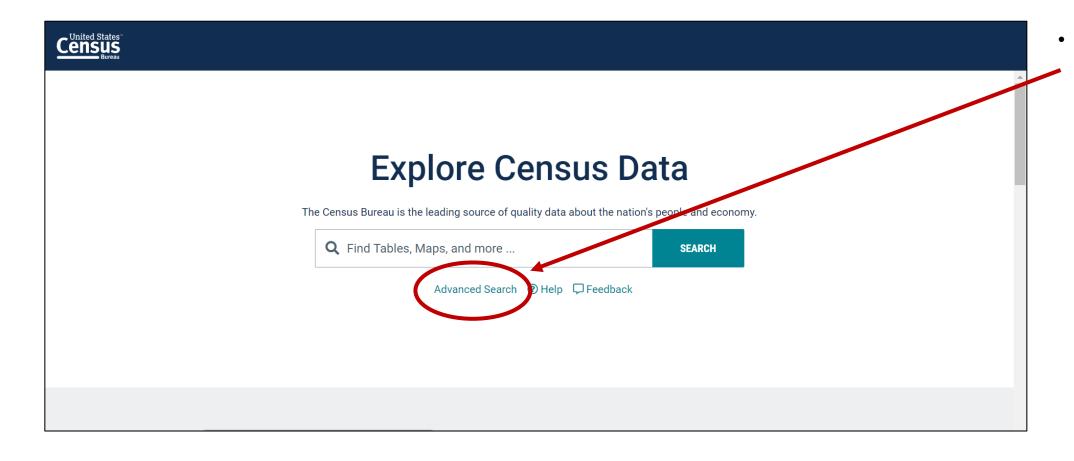
Example: Race for State Senate District 24 in Arizona

- 3. Geographic Components
 - a) Advanced Search Example: Total population in Urban and Rural Alabama
 - b) Using URL to Select Geography Example: Total population in Urban and Rural Georgia
- 4. Collections of Geographies and Thematic Mapping

Example: Median age for all block groups in Vermont



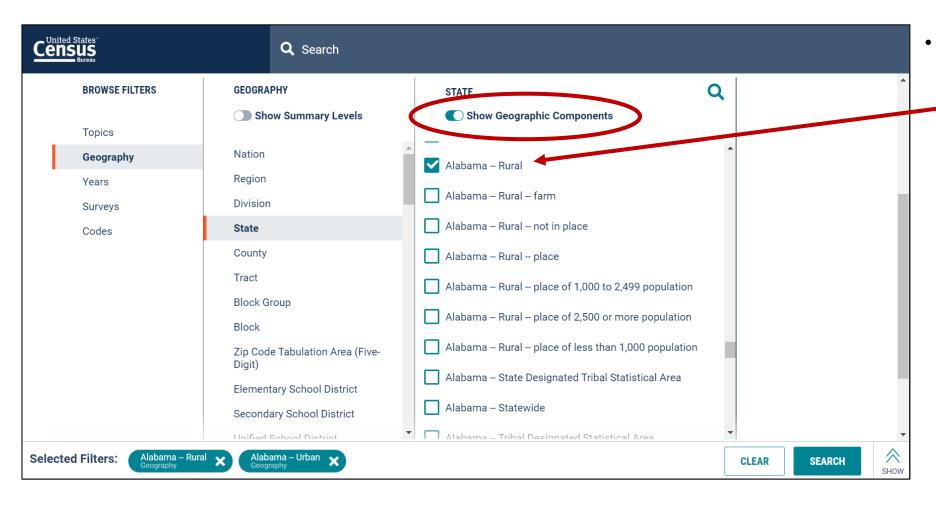
Select Advanced Search



Click **Advanced Search**



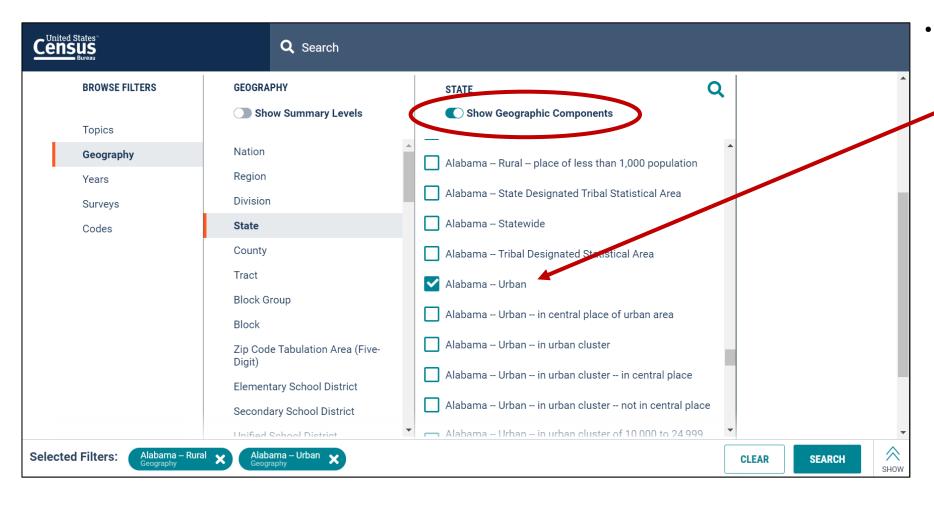
Select Geography: Alabama – Rural



Select Geography
Geography → State → Turn on
Show Geographic Components
toggle → Alabama -- Rural



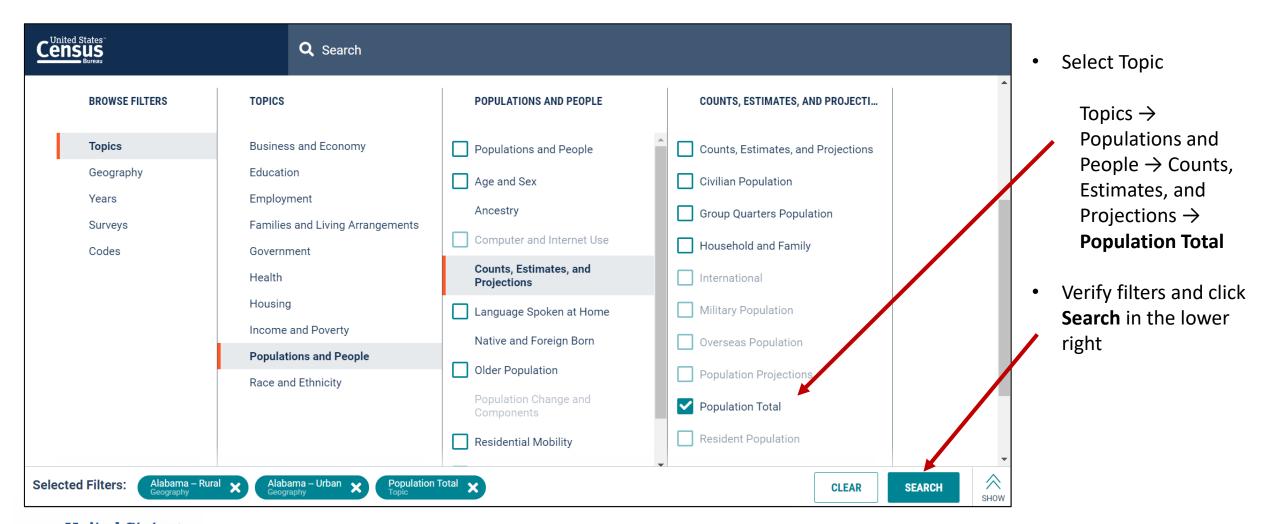
Select Geography: Alabama – Urban



Select Geography
Geography → State → Turn on
Show Geographic Components
toggle → Alabama -- Urban



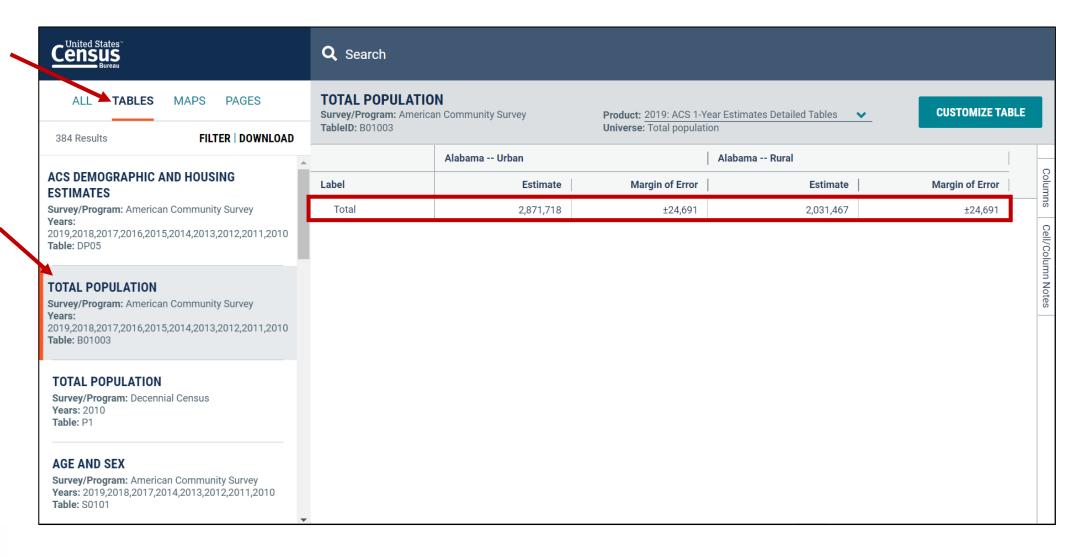
Select Topic: Total Population





Browse Tables and View Results

- Click **Tables** in the upper left
- Click a table title on the left to browse the available data: B01003
 Total Population
- View your results

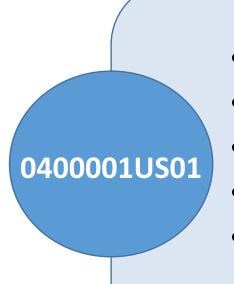




GEOIDs in data.census.gov URLs

 $data.census.gov/cedsci/table?t=Population\%20Total \textbf{\&g=0400001US01_0400043US01}\& tid=ACSDT1Y2019.B01003\& hidePreview=falsed to the contraction of the contraction o$

- Geography portion of URL begins with g=
- Different portions or URL are separated by ? and &



- 040 = 3-Digit Summary Level (state)
- 00 = 2-Digit Geographic Variant
- 01 = 2-Digit Geographic Component (Urban)
- US = United States
- 01 = GEOID that matches TIGER/Line Shapefiles (Alabama)



data.census.gov Demo

1. Geographies within Other Geographies

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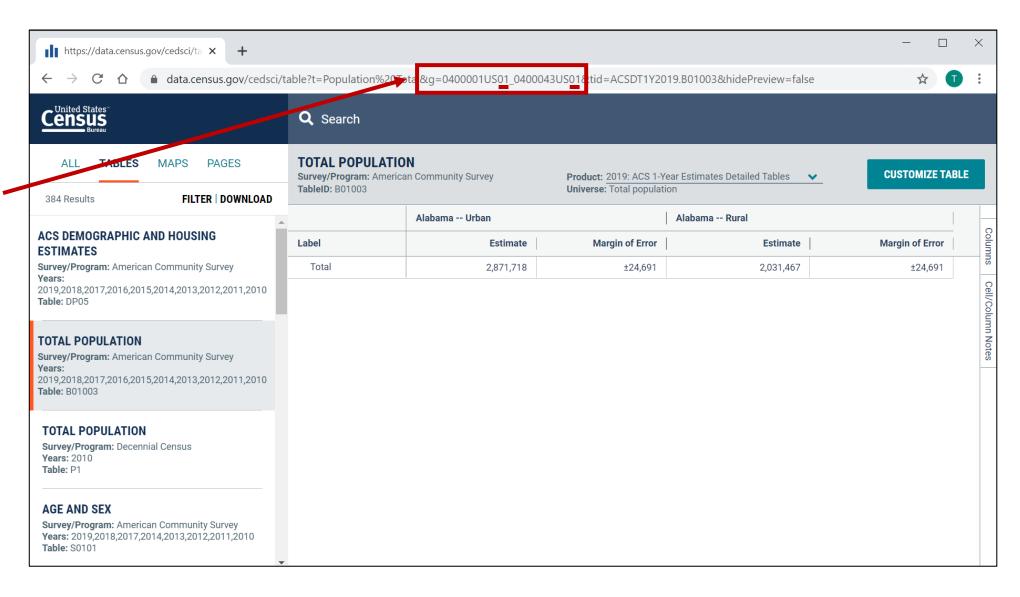
- a) Advanced Search Example: Total population in Urban and Rural Alabama
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Example: Median age for all block groups in Vermont



Locate State Code 01 in URL

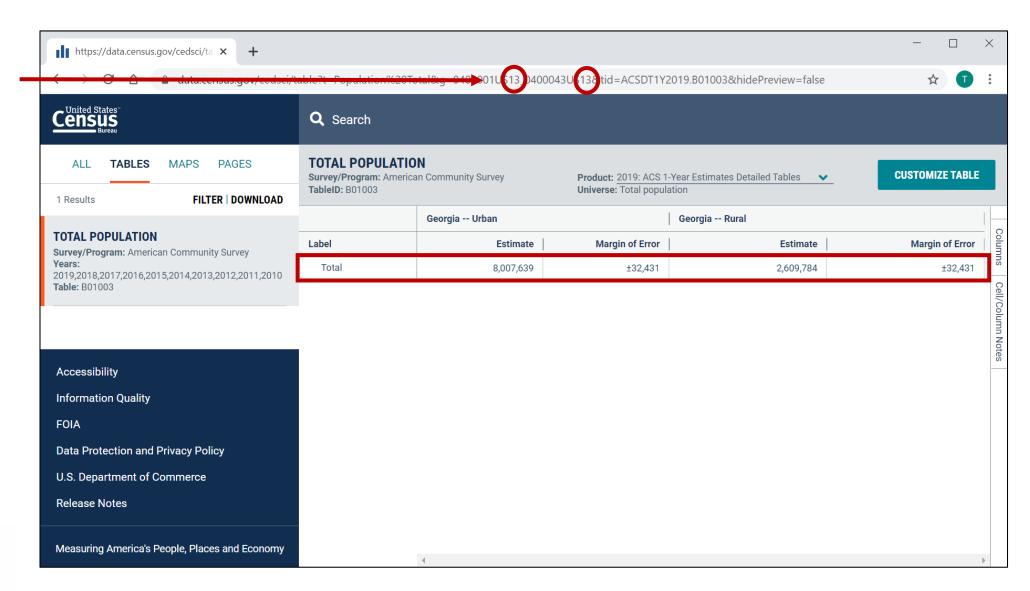
- Locate the geography portion of the URL that begins with &g=
- Locate state code 01 in the URL, which corresponds to Alabama





Change codes 01 to 13 and View Results

- Change both instances of code 01 (Alabama) to 13 (Georgia)
- Press enter
- View results





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Collections of Geographies

You can access data for collections of geographies by clicking a single check box in the Geography filters on data.census.gov:

Summary Level	Collections
040	All States within the U.S.
050	All Counties within the U.S.
	All Counties within a State
060	All County Subdivisions within a State
	All County Subdivisions within a County
100	All Blocks within a State
	All Blocks within a County
140	All Census Tracts within a State
	All Census Tracts within a County
150	All Block Groups within a State
	All Block Groups within a County
	All Block Groups within a Census Tract
160	All Places within the U.S.
	All Places within a State
250	All American Indian Areas/Alaska Native Areas/Hawaiian Home Lands within the U.S.
280	All American Indian Areas/Alaska Native Areas/Hawaiian Home Lands within a State
310	All Metropolitan/Micropolitan Statistical Areas within the U.S.
330	All Combined Statistical Areas within the U.S.

All New England City and Town Areas within the U.S.

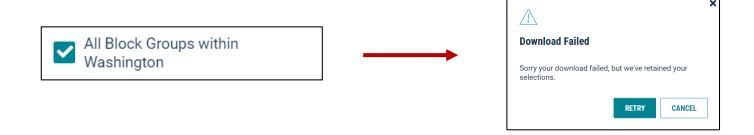


Summary Level	Collections				
360	All New England City and Town Areas (or parts) within a State				
400	All Urban Areas within the U.S.				
500	All Congressional Districts for 106 th through 116 th Congress in the U.S.				
	All Congressional Districts for 106 th through 116 th Congress in a State				
610	All State Legislative Districts (Upper Chamber) within a State				
620	All State Legislative Districts (Lower Chamber) within a State				
700	All Voting Districts within a State				
	All Voting Districts within a County				
795	All Public Use Microdata Areas within the U.S.				
	All Public Use Microdata Areas within a State				
860	All Zip Code Tabulation Areas (ZCTAs) within the U.S.				
861	All 5-Digit ZIP Codes within the U.S.				
871	All Zip Code Tabulation Areas (ZCTAs) fully/partially within a State				
950	All School Districts (Elementary) within a State				
960	All School Districts (Secondary) within a State				
970	All School Districts (Unified) within a State				
E60	All Economic Places within United States				
	All Economic Places within a State				

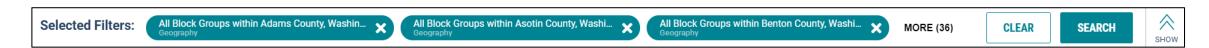


All Block Groups in a State

Check boxes for "All Block Groups in a state" have not been made compatible with ACS data tables and will result in Download Failed error messages.



Use the county-level collections instead (example: All block groups in each of Washington's 39 counties)



Visit this FAQ for quick links that provide selections for all block groups in a state that work with ACS tables:

ask.census.gov/prweb/PRServletCustom?pyActivity=pyMobileSnapStart&ArticleID=KCP-6017



data.census.gov Demo

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3. Geographic Components

- a) Advanced Search Example: Total population in Urban and Rural Alabama
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Example: Median age for all block groups in Vermont



Select Advanced Search

< Back Home

How do I download ACS data for all block groups in a state?

In the block group section of the advanced search filters, you may have noticed allow you to select all block groups in a state (example: All block groups in Washi enable these search options for American Community Survey (ACS) data tables is

complete this work, you will get a download failed error message if you try to use for ACS data tables.

The good news is that you can use the county-level block group selections as a w block groups in each of Washington's 39 counties).

To help make this easy for you, we have provided quick links for you to use below will take you to the advanced search page with the block groups already selected From here, you can add table IDs or topic filters and run your search. States with split into two or more links due to URL size limitations.

Please note: At the block group level, the only ACS data tables available are Detail IDs that begin with a B or C). Furthermore, only a subset of these Detailed Tables groups. This means that data at the block group level are not available for every of ACS tables with geographic restrictions for more details.

Links for all block groups in:

- Alabama
- Alaska
- Arizona
- <u>Arkansas Part 1</u> (Arkansas County-Johnson County)
- Arkansas Part 2 (Lafayette County- Yell County)
- California
- Colorado

- IVEW Hampshire
- New Jersey
- New Mexico
- New York
- North Carolina Part 1 (Alamance County-Iredell County)
- North Carolina Part 2 (Jackson County-Yancey County)
- North Dakota
- Ohio Part 1 (Adams County-Knox County
- Ohio Part 2 (Lake County-Wyandot County)
- Oklahoma Part 1 (Adair County- Johnston County)
- Oklahoma Part 2 (Kay County-Woodward County)
- Oregon
- Pennsylvania
- Puerto Rico Part 1 (Adjuntas-Luquillo Municipio)
- Puerto Rico Part 2 (Manatí Municipio-Yauco Municipio)
- Rhode Island
- South Carolina
- South Dakota
- <u>Tennessee Part 1</u> (Anderson County-Johnson County)
- Tennessee Part 2 (Knox County-Wilson Canty)
- Texas Part 1 (Anderson County-Duyal county)
- Texas Part 2 (Eastland County ones County)
- Texas Part 3 (Karnes County-Presidio County)
- Texas Part 4 (Rain county-Zavala County)
- TOXAGE TATE !
- _____
- Vermont
- Virginia art 1 (Accomack County-James City County)
- Virginia Part 2 (King George County-York County)
- Washington
- West Virginia
- Wisconsin Part 1 (Adams County-Lincoln County)
- Wisconsin Part 2 (Manitowoc County-Wood County)
- Wyoming

- Visit the FAQ How do I download ACS data for all block groups in a state?

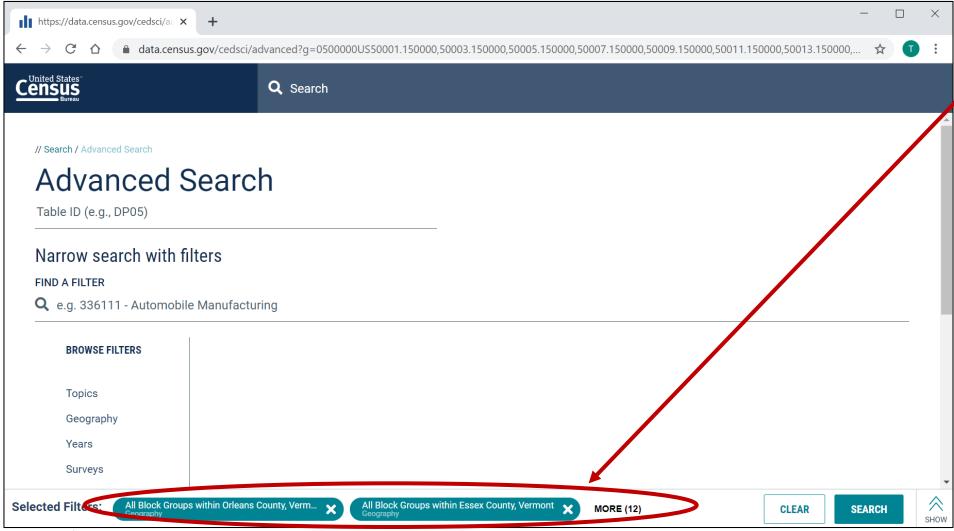
 https://ask.census.gov/prweb/

 /PRServletCustom?pyActivity

 =pyMobileSnapStart&ArticleI
 D=KCP-6017
- Click the link for all block groups in **Vermont**



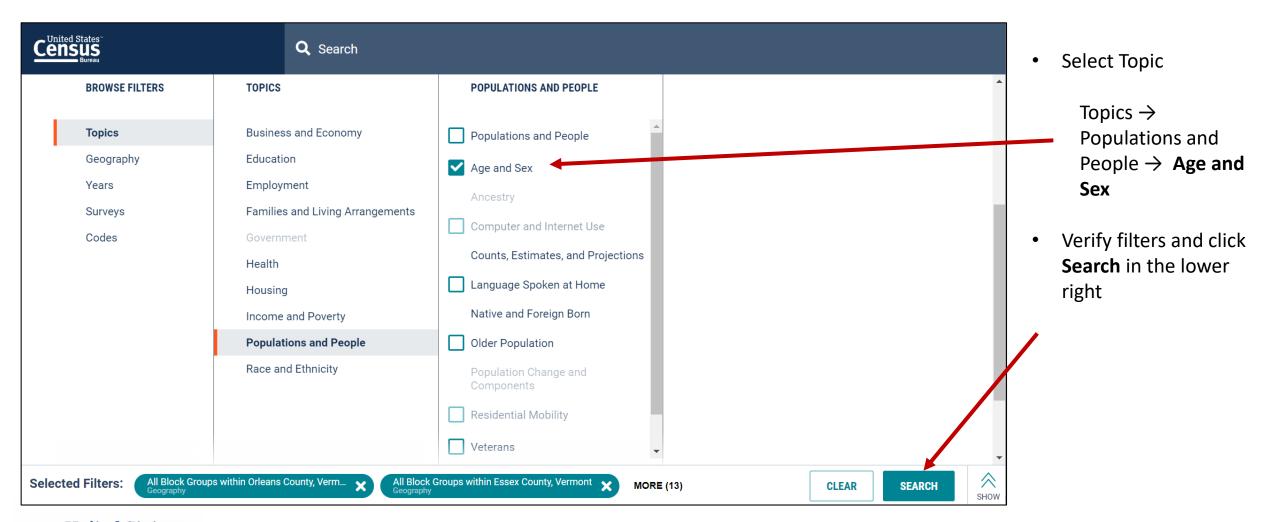
Confirm Geography Selection



Verify link geography selections for all block groups in each of Vermont's 14 counties



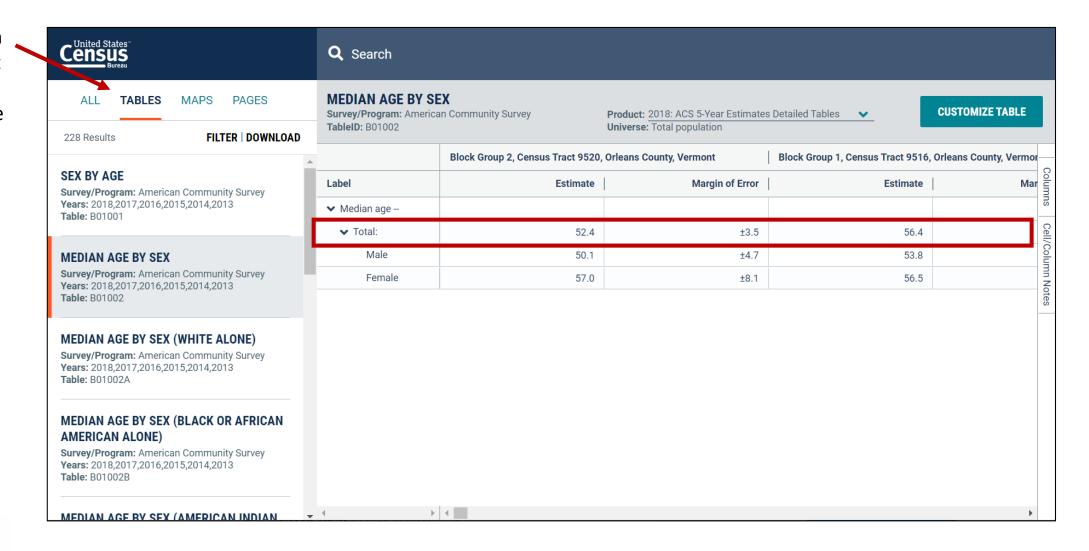
Select Topic: Age and Sex





View Table Results

- Click **Tables** in the upper left
- Click the table results and find an estimate that you would like to map

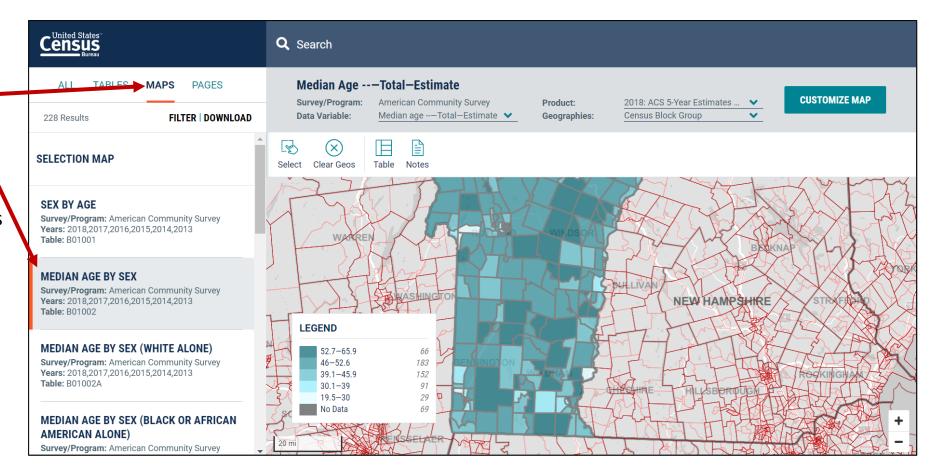




Navigate to Map

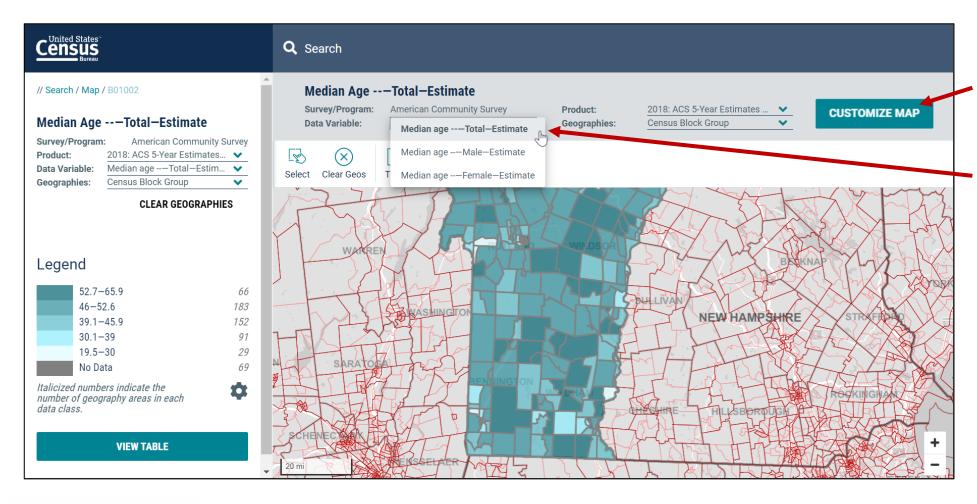
Navigate to the map tab

- Click Maps in the upper left
- Click your table of interest
- Verify the map is set to the block group level, and that it is zoomed to block groups in Vermont





Confirm Your Variable

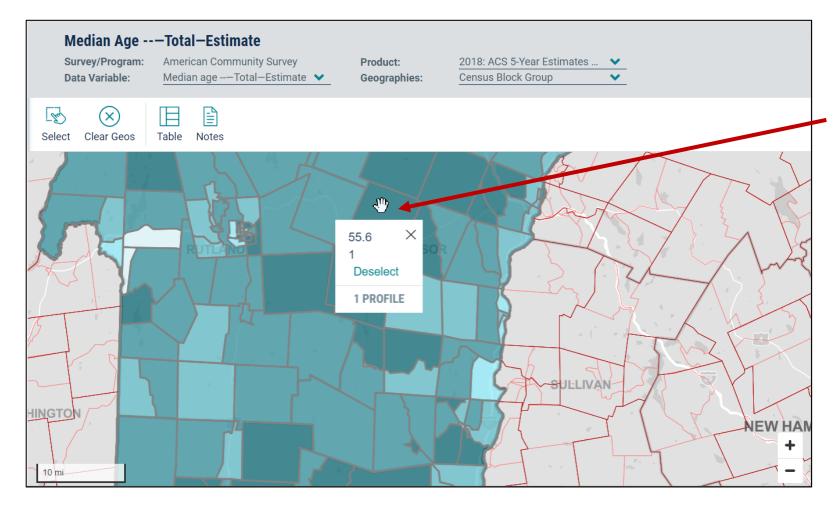


From the Map View

- Click Customize Map
- Select the Data Variable dropdown menu and confirm Median Age— Total—Estimate



View Map

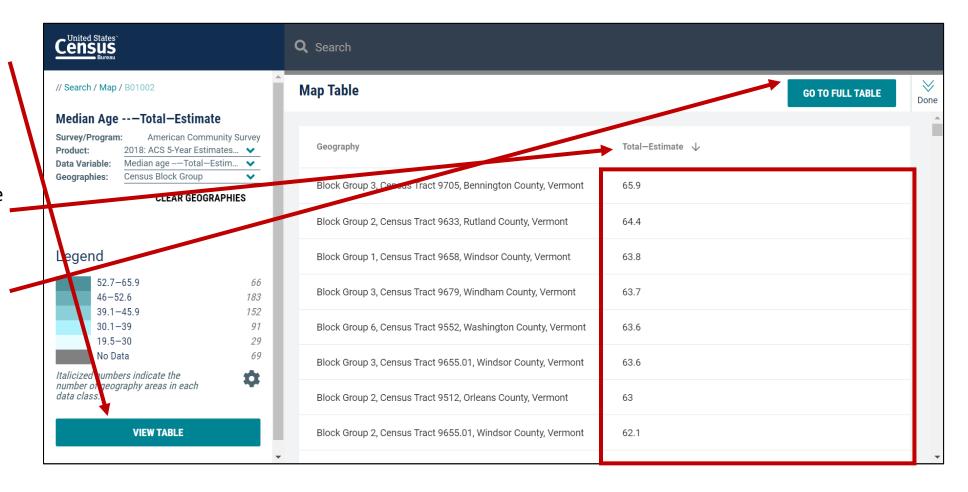


 Click on the block groups with the darkest shade of blue to see which block groups have the highest median age



Compare Your Variable Across Geographies

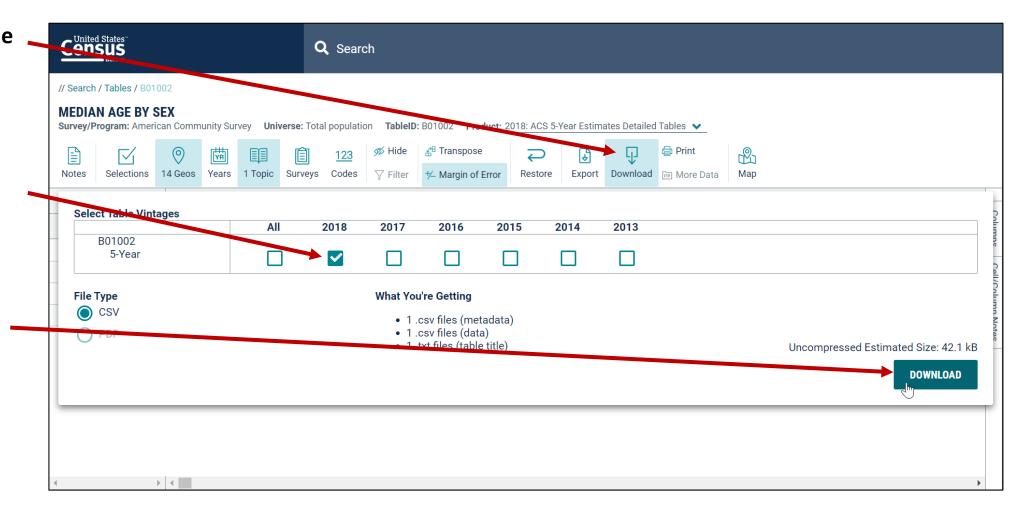
- Click View Table in the left navigation panel
- View table with all of your geographies. Click the column header for your variable to sort the data in ascending or descending order
- Click Go To Full Table





Download Table

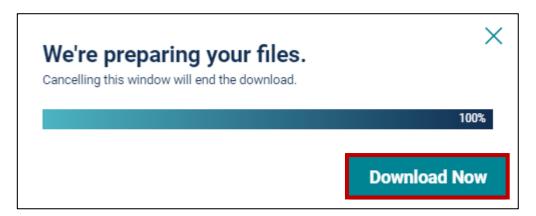
- Click **Download Table** from the Customize
 Table view
- Verify the years you would like to download
- Click Download



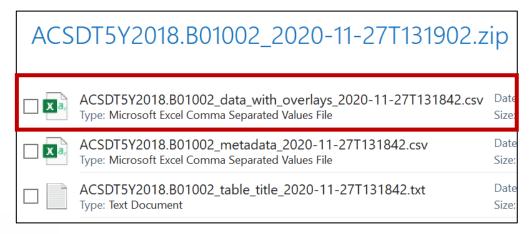


Open File

Wait for the download status to reach 100% and then click Download Now



• Open the .csv file that has "data_with_overlays" in the naming convention





View Download

	А	В	С	D	_
1	GEO_ID	NAME	B01002_001E	B01002_001M	B0:
2	id	Geographic Area Name	Estimate!!Median age!!Total	Margin of Error!!Median age!!Total	Est
3	1500000US500199520002	Block Group 2, Census Tract 9520, Orleans County, Vermont	52.4	3.5	5
4	1500000US500199516001	Block Group 1, Census Tract 9516, Orleans County, Vermont	56.4	e	6
5	1500000US500199516004	Block Group 4, Census Tract 9516, Orleans County, Vermont	43.3	18.6	5
6	1500000US500199516002	Block Group 2, Census Tract 9516, Orleans County, Vermont	46.2	8.8	3
7	1500000US500199516003	Block Group 3, Census Tract 9516, Orleans County, Vermont	34.7	4.3	3
8	1500000US500199512002	Block Group 2, Census Tract 9512, Orleans County, Vermont	63	9.8	3
9	1500000US500199512003	Block Group 3, Census Tract 9512, Orleans County, Vermont	37.9	11.4	1
10	1500000US500199511001	Block Group 1, Census Tract 9511, Orleans County, Vermont	50.8	5.6	5
11	1500000US500199517003	Block Group 3, Census Tract 9517, Orleans County, Vermont	48	4.6	5
12	1500000US500199517001	Block Group 1, Census Tract 9517, Orleans County, Vermont	43.4	4.7	7
13	1500000US500199517002	Block Group 2, Census Tract 9517, Orleans County, Vermont	43.1	9.2	2
14	1500000US500199518001	Block Group 1, Census Tract 9518, Orleans County, Vermont	50.9	7.9	Э
15	1500000US500199518002	Block Group 2, Census Tract 9518, Orleans County, Vermont	40.8	5.3	3
16	1500000US500199518003	Block Group 3, Census Tract 9518, Orleans County, Vermont	58.9	7.2	2 -
1	ACSDT5Y2018.B01002_	data_with_ov +	: 4		•
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Outline

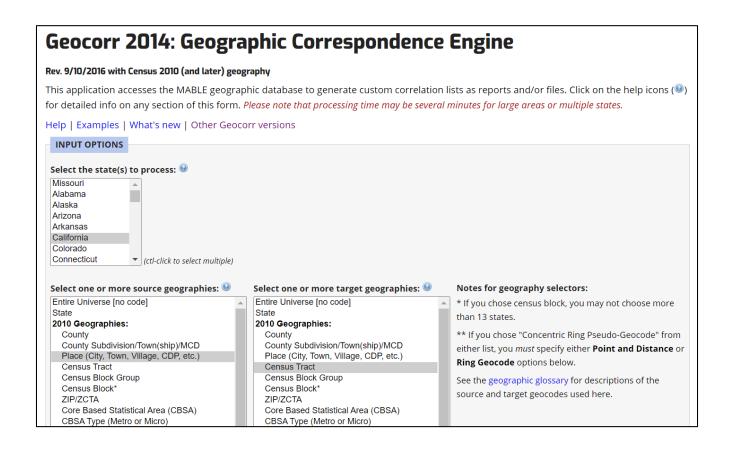
- Geographies on data.census.gov
- Tips and Demo Complex Geographies:
 - Geographies within Other Geographies
 - Geographies with Frequent Name Changes
 - Geographic Components
 - Collections of Geographies and Thematic Mapping
- Common Questions
- Q&A



How Can I Get a List of Geography Relationships?

Get a list of geographies within other geographies, even if they do not have a neatly nested relationship:

- MABLE Geocorr
 https://mcdc.missouri.edu/applications/geocorr.html
- U.S. Census Bureau Relationship Files
 https://www.census.gov/geographies/ref
 erence-files/time series/geo/relationship-files.html



https://www2.census.gov/data/api-documentation/Address%20Search%20-%20Geocoder%20and%20TIGERweb/Using%20MABLE%20Geocorr ZCTAs%20within%20State.pdf

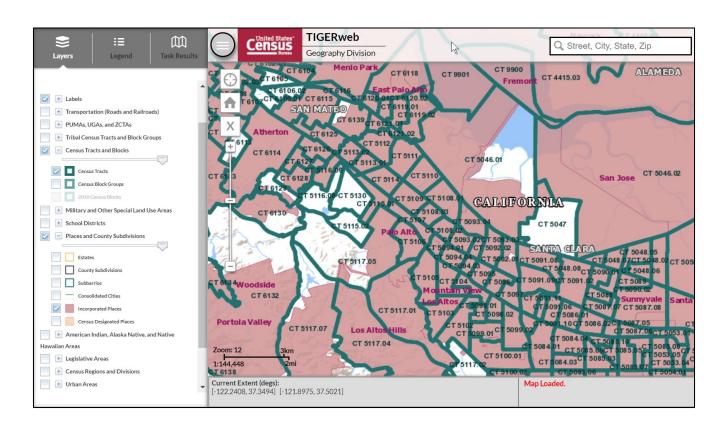


How Can I See More Than One Layer On My Map?

TIGERweb Mapping Application is a great reference map that allows multiple layers

https://tigerweb.geo.census.gov/tigerweb/

data.census.gov allows for one layer at a time



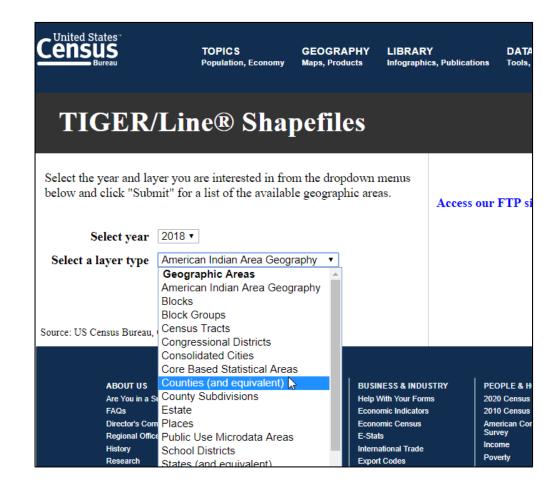
https://www2.census.gov/data/api-documentation/Address%20Search%20-%20Geocoder%20and%20TIGERweb/Using%20TIGERweb%20to%20View%20Map%20Layers.pdf



How Can I Download Shapefiles?

Geography Resources

- Shapefiles for common types of geographic areas: Use the <u>TIGER/Line</u> <u>Shapefiles web interface</u> and reference FAQ <u>KCP-5491</u>
- Shapefiles for all geographic areas:
 Use the <u>FTP site</u> and see the <u>educational brochure on</u>
 Downloading TIGER/Line Shapefiles

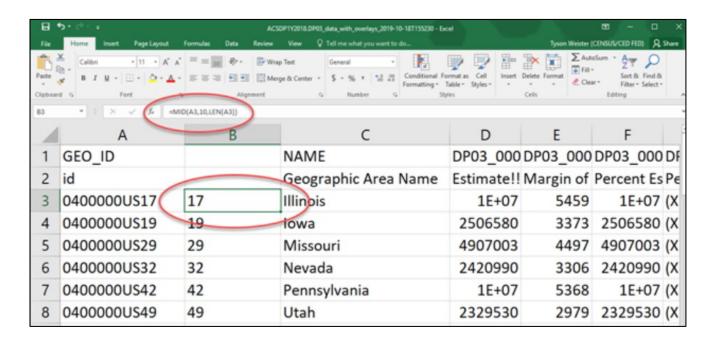


ask.census.gov/prweb/PRServletCustom?pyActivity=pyMobileSnapStart&ArticleID=KCP-5491



How Can I Match the GEOID from data.census.gov with the GEOID from the TIGER/Line Shapefiles?

Use the part of the data.census.gov GEOID after "US" and reference <u>FAQ KCP-5651</u> for an easy trick to parse the needed information using Excel.



ask.census.gov/prweb/PRServletCustom?pyActivity=pyMobileSnapStart&ArticleID=KCP-5651

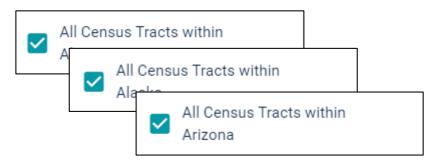


How Do I Download Data for All Census Tracts in the U.S.?

• Visit this link which has selections for all tracts in each state, DC, and Puerto Rico

 $\frac{\text{https://data.census.gov/cedsci/advanced?g=0400000US01.140000,02.140000,04.140000,05.140000,06.140000,08.}{140000,09.140000,10.140000,11.140000,12.140000,13.140000,15.140000,16.140000,17.140000,18.140000,19.140}{000,20.140000,21.140000,22.140000,23.140000,24.140000,25.140000,26.140000,27.140000,28.140000,29.140000}{000,30.140000,31.140000,32.140000,33.140000,34.140000,35.140000,36.140000,37.140000,38.140000,39.140000,40.}{140000,41.140000,42.140000,44.140000,45.140000,46.140000,47.140000,48.140000,49.140000,50.140000,51.140}{000,53.140000,54.140000,55.140000,56.140000,72.140000}$

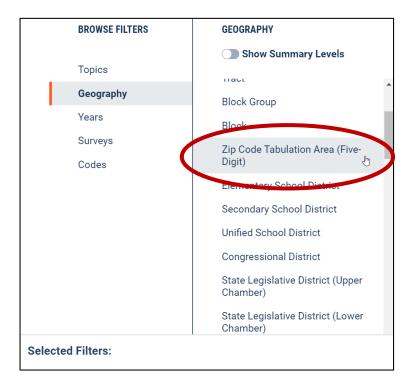
- Add additional search criteria
- Download data





How Do I Access Data for ZIP Codes?

Use ZIP Code Tabulation Areas (ZCTAs) for data on people and housing



Use ZIP Codes for data on businesses

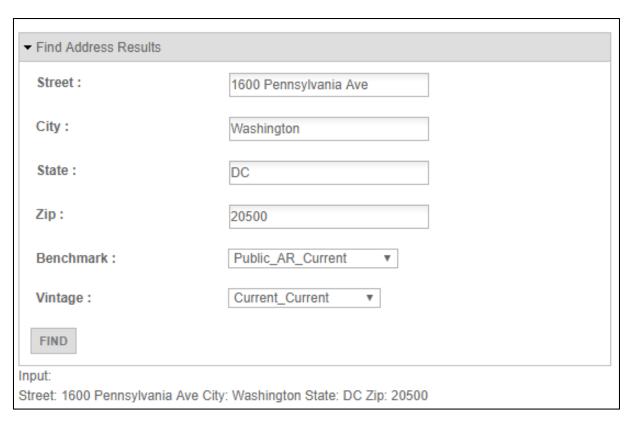


https://www2.census.gov/data/api-documentation/using-data-census-gov-differences-in-zcta_zip-code-summary-levels.pdf

How Can I Find the Geographies for an Address?

To find the census tract or other geographic areas associated with a particular address:

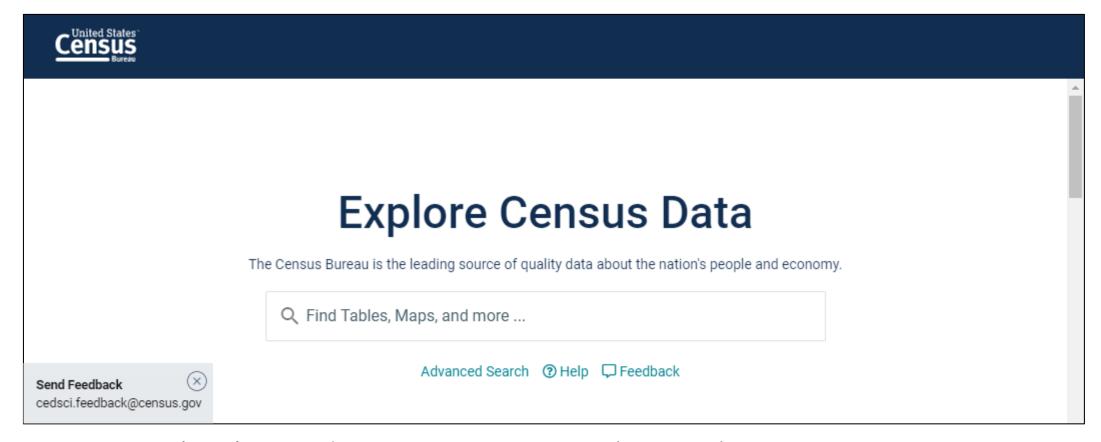
Use the <u>Census Geocoder</u> and reference <u>FAQ</u>
 <u>KCP-5495</u>



ask.census.gov/prweb/PRServletCustom?pyActivity=pyMobileSnapStart&ArticleID=KCP-5495



Our Development Depends on YOUR Feedback



Check out data.census.gov and provide comments at cedsci.feedback@census.gov



Questions

Media:

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pio@census.gov

301-763-3030

Public:

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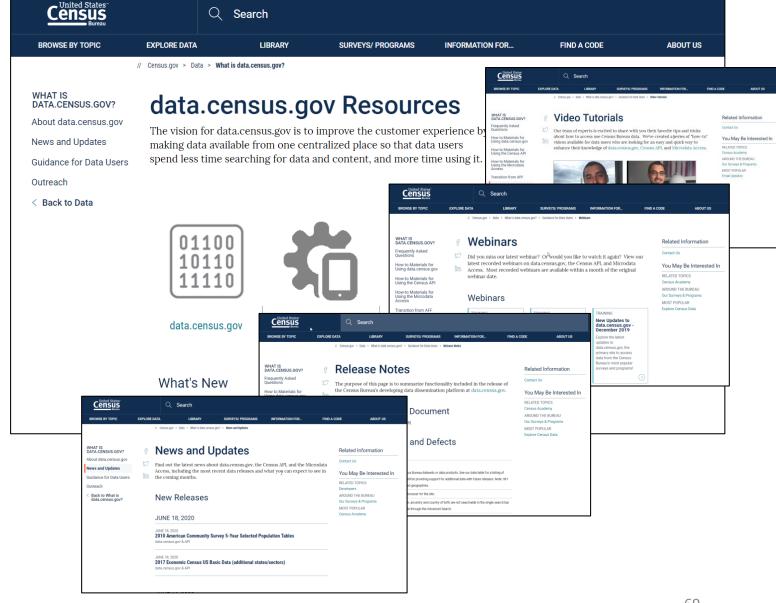
data.census.gov Resources page:

census.gov/data/what-is-datacensus-gov.html

Census Academy:

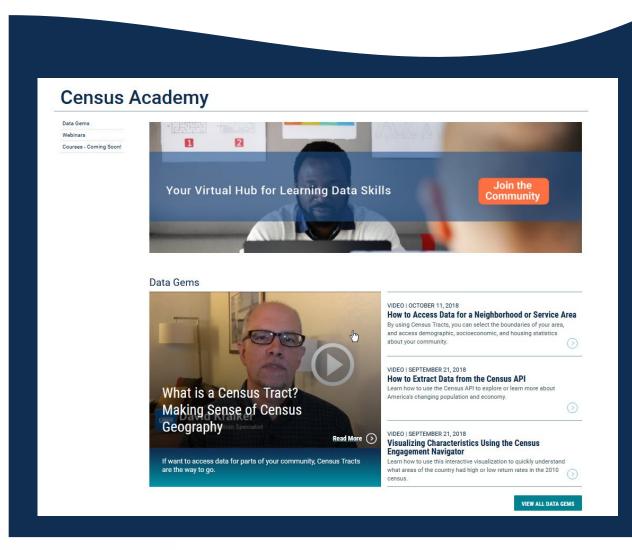
census.gov/data/academy/webinars /upcoming.html

Feedback: Email comments to cedsci.feedback@census.gov





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